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(54) Title: LITHIUM BATTERY AND ELECTRODE

(57) Abstract

An electrode includes an electrically conductive matrix containing a disulfide group, wherein an S–S bond of the disulfide group is cleaved by electrochemical reduction and reformed by electrochemical oxidation. A plurality of carbon nanotubes are substantially disentangled and dispersed in the electrically conductive matrix. The electrode can be used as a cathode of a lithium battery. A method for producing disentangled carbon nanotubes includes the steps of: adding a plurality of aggregates of carbon nanotubes to a liquid; and providing sheer force (e.g. passing the liquid through a narrow gap at a high speed) onto the liquid for disentangling the aggregates of carbon nanotubes therein.